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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/621,460

07/21/2000

Hirofumi Kamosawa

048369/0118

4653

22428

7590

10/27/2003

FOLEY AND LARDNER

SUITE 500

3000 K STREET NW

WASHINGTON, DC 20007

EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/621,460

Applicant(s)

KAMOSAWA ET AL.

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 6, 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 21 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 4 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/30/2003 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazlas et al (kazlas) (U.S.Patent No. 5,919,606) in view of Hirakata et al. (Hirakata) (U.S.Patent No. 6,219,127) (both cited previously) and further in view of McMahon et al. (McMahon) (U.S.Patent No. 4,278,327).

Kazlas discloses a liquid-crystal display element (Fig. 9) wherein an array substrate on which a plurality of liquid-crystal injection areas (940) are arranged and each liquid crystal injection area is surrounded by a seal (950) having an aperture and an overall liquid-crystal injection areas being surrounded by an outer peripheral seal (920) having an aperture (930), and an opposing substrate

are adhered together, and the aperture of the outer peripheral seal being sealed by a hole sealant (photo defined adhesive sealer), after which cutting plurality of liquid-crystal injection areas along lines 930A and 930B, scribe lines) as formed between the opposite aperture holes so as to separate individual liquid-crystal injection areas. Kazlas also discloses that a plurality of apertures at the outer peripheral seal are provided (Fig. 9) along the outer peripheral seal (620) and at crossing points each being formed between the outer peripheral seal and a line along (scribe lines) which the individual liquid-crystal injection areas are cut apart, as recited in claim 2 and the outer peripheral seal and the edge sealer comprise a polymeric resin and UV curing (Col. 1, lines 60-64), as recited in claim 4.

Although, polishing of the substrates is well known and quite necessary for proper operation of the liquid crystal display, Kazlas does not explicitly disclose this operation. Hirakata on the other hand, in disclosing a liquid crystal display device, discloses (Col. 3, lines 60-64) polishing the end surfaces of the substrates (101 and 102), as recited in claim 1.

As to the newly recited feature, neither Kazlas nor Hirakata disclose the tapering of the substrate so that a peripheral portion of the substrate is smaller than a non-peripheral portion. McMahon in disclosing electro-optical devices that include liquid crystals discloses that a peripheral portion of a substrate is smaller than a non-peripheral portion (Fig. 5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the end polishing operation as disclosed by Hirakata and the specific tapering as disclosed by McMahon to the display configuration of Kazlas to protect against contamination and simplify handling (Hirakata, Abstract).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazlas, Hirakata and McMahon as applied to claim 1 and further in view of Wenz et al. (Wenz) (U.S. Patent No. 5,268,782).

Kazlas discloses separating an individual liquid-crystal injection area, liquid crystal is injected into the liquid-crystal injection area (col. 11, lines 17-44) and sealing of the individual cells.

Although incorporation of polarizers in liquid crystal display is also well known, Kazlas does not explicitly disclose the application of polarizers.

Wenz on the other hand, in disclosing a similar multi cell liquid crystal display device, discloses polarizers (24, 26).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the polarizers disclosed by Wenz to the display configuration of Kazlas to achieve high contrast and high brightness displays.

Allowable Subject Matter

5. Claims 5-6 and 12-13 are allowed.
6. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches that for a liquid crystal display element **array**, an array substrate is being tapered so that a peripheral portion of the array substrate is smaller than a non-peripheral portion and the peripheral portion is polished, before cutting apart the individual liquid crystal injection areas.

The difference between the allowed claims and the rejected claims is that the allowed claims recite the tapering configuration for the entire array substrate whereas for the rejected claims the tapered configuration could broadly be interpreted as belonging to an individual element.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

Prasad R Akkapeddi
Examiner
Art Unit 2871

Prasad R Akkapeddi
TOANTON
PRIMARY EXAMINER